IN THE CLAIMS

1. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus, comprising:

a first portion of the capacitive sensor having at least one first engagement member projecting downwardly therefrom and a second portion of the capacitive sensor connected to the first region and configured to slide relative to the first region, the second portion having at least one second engagement member projecting outwardly therefrom, at least one of the first portion and the second portion comprising a capacitive element;

a biasing element disposed between the first portion and the second portion to bias the first portion toward the second portion and to maintain the first portion and second portion in a contracted state; and

an electrical connector electrically connecting the first or second portion forming the capacitive element to an output terminal,

wherein at least one of the first portion and the second portion has a substantially planar base, and

wherein the first portion may be translated relative to the second portion against a bias of the biasing element to an expanded state for securement to a coil-on plug housing.

2. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 1, wherein the first portion has a substantially planar base defining a slot or groove therein, and

the second portion has a protruding member disposed to slide within the slot or groove and to maintain the second portion in sliding contact with the first portion.

3. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 2, wherein the biasing member is disposed between an upstanding first finger of the first portion and an upstanding second finger of the second portion.

4. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 3, wherein the biasing member is a spring.

5. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 4, further comprising a guide rod disposed along a longitudinal axis of the spring within the spring coil.

6. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 5, wherein the guide rod is rigidly connected to one of the first portion and the second portion and is slidingly connected to another one of the first portion and the second portion.

7. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 6, wherein guide rod is rigidly connected to one of the first portion and the second portion and is slidingly connected to another one of the first portion and the second portion.

8. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 7, wherein the rigid connection of the guide rod to one of the first portion and the second portion forms a terminal for the electrical connector.

9. (Original) A capacitive sensor for a coil-on plug ignition testing apparatus according to claim 8, further comprising a non-conductive material applied to an exterior surface of at least a portion of at least one of the first portion and the second portion.

10. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus, comprising:

a magnetic mount base;

a movable arm rotatably attached to the magnetic mount base;

a capacitive sensor rotatably attached to the movable arm; and

a conductor connecting the capacitive sensor to an electrical terminal provided on the magnetic mount base.

11. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus according to claim 10, wherein the movable arm is configured to rotate along two axes.

12. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus according to claim 11, wherein the movable arm comprises at least one of an articulated section having a joint and a telescoping section.

13. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus according to claim 12, wherein a distal end of the movable arm comprises a capacitive sensor mount.

14. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus according to claim 13, wherein the capacitive sensor is configured to rotate about at least one axis relative to the capacitive sensor mount.

15. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus according to claim 14, wherein at least one of the capacitive sensor and the capacitive sensor mount is configured to translate with respect to the movable arm.

16. (Original) A magnetic mount capacitive sensor for a coil-on plug ignition testing apparatus according to claim 14, further comprising a non-conductive material applied to an exterior surface of at least a region of at least one of the capacitive sensor, the capacitive sensor mount, and the movable arm.

17. (Cancelled)

18. (Currently Amended) A control module for a coil-on plug ignition testing apparatus according to claim ~~17~~ 20, further comprising:

a first switch positionable in a first position and a second position;

wherein the first potentiometer is provided in series with the first circuit region and the second circuit region when the switch is in the first position to permit attenuation of signals input thereto.

19. (Original) A control circuit for a coil-on plug ignition testing apparatus according to claim 18,

wherein the first circuit region comprises the first capacitor comprising a region of a capacitive divider when the switch is in the second position,

wherein the second circuit region comprises a second capacitor comprising a region of another capacitive divider when the switch is in the second position,

wherein the first potentiometer is provided in series to the first circuit region when the switch is in the second position to permit attenuation of signals input thereto, and

wherein a second potentiometer is provided in series to the second circuit region when the switch is in the second position to permit attenuation of signals input thereto.

20. (Original) A coil-on plug ignition testing apparatus, comprising:

a capacitive sensor comprising a first region having at least one first engagement member projecting outwardly therefrom and a second region connected to the first region and configured to slide relative to the first region, the second region having at least one second engagement member projecting outwardly therefrom, at least one of the first region and the second region comprising a capacitive element, a biasing element disposed between the first region and the second region to bias the first region toward the second region and to maintain the first region and second region in a contracted state, and an electrical connector electrically connected to at least one of the first region and the second region forming the capacitive element, wherein at least one of the first region and the second region has a substantially planar base, and wherein the first region may be translated relative to the second region against a bias of the biasing element to an expanded state for securement to a coil-on plug housing, and

a control circuit comprising a first circuit region comprising a plurality of input electrical connectors connectable to a first plurality of capacitive sensors, a second circuit region comprising a plurality of input electrical connectors connectable to a second plurality of capacitive sensors, the second circuit region provided parallel to the first circuit region, a first capacitor comprising a region of a capacitive divider provided in at least one of the first circuit region and the second circuit region, and a first potentiometer provided in series with the first circuit region and the second region for attenuation of signals input thereto.

21. (Original) A coil-on plug ignition testing apparatus, comprising:

a capacitive sensor comprising a magnetic mount base, a movable arm rotatably attached to the magnetic mount base, a capacitive sensor rotatably attached to the movable arm, and a conductor connecting the capacitive sensor to an electrical terminal provided on the magnetic mount base; and

a control circuit comprising a first circuit region comprising a plurality of input electrical connectors connectable to a first plurality of capacitive sensors, a second circuit region comprising a plurality of input electrical connectors connectable to a second plurality of capacitive sensors, the second circuit region provided parallel to the first circuit region, a first capacitor comprising a region of a capacitive divider provided in at least one of the first circuit region and the second circuit region, and a first potentiometer provided in series with the first circuit region and the second region for attenuation of signals input thereto.